



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/694,888	10/29/2003	Walter Henry Berryman	0641-0255P	4113
2292	7590	09/25/2006		
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
			EXAMINER TALBOT, BRIAN K	
			ART UNIT	PAPER NUMBER

1762

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/694,888

Applicant(s)

BERRYMAN, WALTER HENRY

Examiner

Brian K. Talbot

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6,7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6,7 and 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1762

1. The amendment filed 7/13/06 has been considered and entered. Claims 5,8 and 13-24 have been canceled. Claims 1-4,6,7, and 9-12 remain in the application.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. In light of the amendment filed 7/13/06, the 35 USC 102 rejection has been withdrawn, however, a 35 USC 103 rejection has been necessitated by the amendment.
4. In light of the amendment filed 7/13/06, the 35 USC 112, second paragraph rejection has been withdrawn with the following exceptions:

Claim Rejections - 35 USC § 112

5. Claims 9 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 9, the term “various layers” lacks antecedent basis as the independent claim recites “dielectric layer”.

With respect to claim 11, the claim utilizes improper Markush terminology. Applicant is reminded when reciting a group of terms the phrase “selected from the group consisting of” should introduce the grouping and the last term should be preceded by an “and” not an “or”.

Claim Rejections - 35 USC § 103

6. Claims 1,2,4 and 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 383598 A1.

DE 383598 A1 teaches a method for producing electronic circuits for thick-films in sensors in conjunction with a strain-gauge built onto the substrate. At least one glass-ceramic insulation layer is applied onto a metallic substrate, dried and heated in a neutral atmosphere that includes CO₂. A second layer of glass-ceramic insulating layer is applied and fired in an oxidizing atmosphere, i.e. air, and fitted with conducting tracks and or electronic components including strain-gauges. The substrate is a titanium-alloy or respectively titanium (pg. 2, machine translation filed 12/1/05)

DE 383598 A1 fails to recite “controlling bending” by controlling processing parameters of thickness and coefficient of expansion.

While the Examiner acknowledges the fact that the DE 383598 A1 fails to specifically recite controlling these parameters, DE 383598 A1 does chose the processing parameters to achieve the desired result which is all that is necessary to meet the claimed limitations are recited. DE 383598 A1 depicts in the drawings a final product that does not suffer from distortion/bending or warping. Furthermore, the specification does not recite or even hint at this phenomenon even occurring.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE 383598 A1 in combination with Sreeram et al. (6,551,720).

Features described above concerning DE 383598 A1 are incorporated here.

DE 383598 A1 fails to recite the glass-ceramic composition to include lead.

Sreeram et al. (6,551,720) teaches a titanium substrate being coated with a lead-based glaze and then a glassy-dielectric layer which can include lead prior to applying conductive ink thereto. The lead glaze reduces oxidation of the titanium and allows good mechanical locking of the titanium to the glass ceramic composition in the firing process (col. 11, lines 20-35).

With respect to the lead diffusing into the titanium surface, it is the Examiner's position that this would inherently take place as the instant invention and the combination of prior art utilize the same or similar materials. If Applicant disagrees, Applicant is invited supply a showing of how the instant invention achieves this feature while the prior art would not even thought the materials are the same. Upon such a showing the Examiner will reconsider his position.

Claims 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 383598 A1 in combination with Lindson (2,959,503).

Features described above concerning DE 383598 A1 are incorporated here.

DE 383598 A1 fails to recite protecting the reverse side of the titanium substrate with a glass-ceramic composition to prevent oxidation of the titanium.

Lindson (2,959,503) teaches coating a titanium or titanium alloy substrate with a glass frit to protect it from oxidation during subsequent processing including heat treatments (col. 2, lines 10-30).

Therefore it would have been obvious for one skilled in the art at the time the invention was made to have modified DE 383598 A1 process by incorporating a protective glass coating on the reverse side of the titanium substrate as evidenced Lindson (2,959,503) because of the advantages associated therewith, i.e. preventing oxidation of the underside of the titanium substrate.

Response to Amendment

7. Applicant's arguments filed 7/13/06 have been fully considered but they are not persuasive.

Applicant argued that the prior art fails to teach controlling the parameters of young's modulus and temperature coefficient's concerning the thickness and composition of the applied glassy dielectric layer to prevent bending.

The Examiner agrees in part. This has been addressed above. Furthermore, it is well known in the art that the bending modulus or bending coefficient is dependent upon the claimed parameters of the material utilized. One skilled in the art would recognize that these parameters need to be "optimized" to produce a product absent without warpage.

Applicant argued that there was no motivation to combine the secondary references with the primary reference.

The Examiner disagrees. As noted above, Sreeram et al. (6,551,720) provides motivation as the lead glaze reduces oxidation of the titanium and allows good mechanical locking of the titanium to the glass ceramic composition in the firing process (col. 11, lines 20-35). Lindson (2,959,503) provides motivation as teaching coating a titanium or titanium alloy substrate with a glass frit to protect it from oxidation during subsequent processing including heat treatments (col. 2, lines 10-30) which is the case here.

Furthermore, in response to Applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that references cannot be arbitrarily combined and that there must be some logical reason why one skilled in the art would be motivated to make the proposed combination of references. *In Re Regel* 188 USPQ 136 (CCPA 1975). However, there is no requirement that the motivation to make the combination be expressly articulated in one or more of the references; the teaching, suggestion or inference can be found not only in the references but also from knowledge generally available to one of ordinary skill in the art. *Ashland Oil v. Delta Resins* 227 USPQ 657 (CAFC 1985). The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In Re McLaughlin* 170 USPQ 209 (CCPA 1971); *In Re Rosselet* 146 USPQ 183 (CCPA 1969). References are evaluated by what they collectively suggest to one versed in the art, rather than by their specific disclosures. *In Re Simon*, 174 USPQ 114 (CCPA 1972); *In Re Richman* 165 USPQ 509, 514 (CCPA 1970).

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian K. Talbot whose telephone number is (571) 272-1428. The examiner can normally be reached on Monday-Friday 6AM-3PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy H. Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1762

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 9/18/06
Brian K Talbot
Primary Examiner
Art Unit 1762

BKT